97-84207-11

U.S. Office of Price Administration

Report on effects of the Executive order...

[Washington]

1943

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... Report on effects of the Executive order establishing the 48-hour week. [Washington] Division of research, Statistical analysis branch, 1943.

31 l. incl. tables. 2 diagr. 27 x 20½cm.

At head of title: For staff use only ... Office of price administration.
Leaves variously numbered; reproduced from type-written copy.

1. Hours of labor—U. S.

46-14844

Library of Congress HD5123.A4 1943
[2] ONLY EB 331.81

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TECHNICAL MICROFORM DATA

FILM SIZE: 35MM REDUCTION RATIO: 9:1 IMAGE PLACEMENT: (IA) IIA IB IIB

DATE FILMED: 10-2-97 INITIALS: PB

TRACKING # : 26932

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REPORT ON EFFECTS OF THE EXECUTIVE ORDER ESTABLISHING THE 48-HOUR WEEK

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DIVISION OF RESEARCH

STATISTICAL ANALYSIS BRANCH

March 10, 1943

6/25/46 v.c.
JUL 11 1946 WS/mcr

REPORT ON
EFFECTS OF THE
EXECUTIVE ORDER ESTABLISHING THE 48-HOUR WEEK

This Report is the first of two that deal with the effects of the Executive Order establishing the 48-hour week. The present Report presents estimates of the possible increases in payrolls and in labor costs that would result from the lengthened work week. The second Report will deal with the effects of these estimated increases on profit margins and established price ceilings. However, a preliminary statement of the general profit position in 1942 compared with previous years and the absorbability of the increases in labor costs is included as an introduction to the present Report.

REPORT ON
EFFECTS OF THE
EXECUTIVE ORDER ESTABLISHING THE 48-HOUR WEEK

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REPORT ON
EFFECTS OF THE
EXECUTIVE ORDER ESTABLISHING THE 48-HOUR WEEK

Introduction: Absorbability of the labor cost increases

A mandatory 48-hour work week with time-and-a-half for all hours in excess of 40 would increase average hourly earnings in all industries in which the scheduled work week is less than 48 hours. If output per man-hour remains unchanged, this would result in an increase in labor cost per unit of output. Whether price ceilings would be affected depends upon the profit position of the industry affected--its ability to absorb the increase in cost of production.

The increase in labor cost per unit of output which would result from the general application of a 48-hour week will present little threat to price ceilings. This is indicated by the profit developments of recent years, which are shown in Table A.

While specific profit data, industry by industry, on a basis strictly comparable to the industrial breakdown shown in Tables 1 and 2 below are not available at this time, the over-all profit position, together with such profit data for major industries as are available, leave little room for doubt on this score. Strictly comparable profit data are now being prepared and will be presented in the second Report.

The major fields in which increased labor costs will present a problem are those in which output or sales will be sharply curtailed. These include the fields of retail and wholesale trade, paper and pulp, and pottery. In these fields and possibly others as the manpower shortage becomes more acute, price relief may be required before the end of 1943. Even in these cases the outcome, however, is open to doubt. It should be noted that increase in the length of the working week will reduce the pressure on manpower and therefore the need to reduce output for this reason.

While there is little likelihood that price ceilings will be threatened by the 48-hour week, there will, of course, be many individual firms, the high-cost marginal producers in almost every field, which will require relief. At this time it is difficult to say how large this number may be.

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Table A -- Net Profits before Federal Income Taxes, Nonagricultural Industries, United States, 1936-1942

Industry	1936-39 Average	1936	1937	1938	1939	1940	1941	1942(Est.)
				(dollars in billions)				
Mining and Manufacturing	$2.83	$3.29	$3.41	$1.29	$3.31	$5.11	$9.50	$13.50
Trade and Service	0.68	0.79	0.72	0.39	0.81	1.13	2.20	2.50
Transportation and Public Utilities	0.69	0.69	0.78	0.40	0.87	1.18	2.00	3.30
			Indexes:	1936-39 = 100				
Mining and Manufacturing	100	116	120	46	117	181	336	477
Trade and Service	100	116	106	57	119	166	324	368
Transportation and Public Utilities	100	100	113	58	126	171	290	478

Source: From 1936 to 1940, inclusive -- Statistics of Income, Bureau of Internal Revenue; 1941 and 1942 estimated by OPA Statistical Branch

Office of Price Administration
Division of Research
March 10, 1943

1-2995-P9-nobu-

REPORT ON
EFFECTS OF THE
EXECUTIVE ORDER ESTABLISHING THE 48-HOUR WEEK

I. Major provisions of the Order

Executive Order 9301, issued February 9, 1943, established a scheduled work week of a minimum of 48 hours for the duration of the war. Its purpose is to release manpower for increasing essential production.

Exceptions to this general rule may be made by the Chairman of the War Manpower Commission. He is authorized by the Order to establish a minimum work week greater or less than that established in the Order or to take other action with respect to work hours which would more effectively contribute to the war effort and promote the purposes of the Order.

The Order does not suspend or modify any provision of the Fair Labor Standards Act or any other Federal, State, or local law relating to the payment of wages or overtime. Nor does it supersede or conflict with any Federal, State or local law limiting hours of work or with the provisions of any individual or collective bargaining agreement with respect to rates of pay for hours worked in excess of the agreed or customary work week. Hours worked in excess of 40 hours a week will be compensated for at time and one half rate when such compensation is provided for in the legislation or bargaining agreements. (Appendix I)

The Chairman of the War Manpower Commission has ruled that the application of the Executive Order be restricted to 32 labor-shortage areas, but that it apply to all nonagricultural employment in these areas. In addition, he designated as subject to the provisions of the Order irrespective of locations: (1) the mining, dressing, and beneficiating (milling) of specified non-ferrous metals and their ores; (2) all logging operations; and (3) all operations in the production of specified lumber and timber products. He further ruled that the extension of the work week not apply to: (1) any establishment or other places of employment in which less than eight workers are regularly employed; (2) persons in the employ of any State or any political subdivision thereof, or any instrumentality of any one or more of the foregoing; and (3) individuals who on account of other employment, household responsibilities, or physical limitations, are not available for full time work. These and the other rulings are included in Appendix II.

II. The Order as affecting nonagricultural industries as a whole

Immediately upon the issuance of the Order, questions arose as to the probable increase in labor costs which the lengthened work week would entail. There was, and is, a widespread misconception that the Order

would result in greatly lengthening the work week, and in increasing current payrolls and labor costs by 30 percent, thereby necessitating the piercing of established price ceilings. This notion was ill-founded, as it was based upon the assumptions (1) that the current work week is now on the average only 40 hours and (2) that increased pay would be required throughout industry for the full added eight hours a week at time and a half rates--or the equivalent of twelve additional hours at the straight time rates.

Scheduled work week and average weekly hours of employment:- The first assumption is not true, and has not been for over a year. The Bureau of Labor Statistics reports that, with but few exceptions, industry has long since been working more than an average of 40 hours a week. As of December, 1942, the latest month for which figures are available, average hours worked in all nonagricultural industries amounted to 43.1 per week.

In this connection it is important to distinguish between the length of the scheduled work week and the average number of weekly hours actually worked. A scheduled work week refers to the number of hours which employees are expected to work regularly each week. The average weekly hours actually worked, however, is computed by dividing the total number of hours, including all overtime, worked during a week by all wage earners, by the total number of wage earners on the payroll for any part of the week. Because of such factors as time lost by individual wage earners due to illness, accidents, or other cause of absence, labor turnover, operational breakdowns and shortages of materials, or because of part-time employment, the computed average of weekly hours worked falls short of the number of hours scheduled. It has been estimated in a recent study by the Bureau of Labor Statistics that a scheduled work week of 48 hours is in fact equivalent to an average work week of not more than 46 hours.1/ The additional hours involved in the establishment of a scheduled 48-hour week are, therefore, the difference between the average of 46 hours which will eventuate from the Executive Order and the current average weekly hours worked, which in most industries is higher than 40 hours a week.

Increased payrolls vs. increased labor cost:- Since industry is already working more than 40 hours a week on the average, the second assumption - that costs will be increased by the equivalent of 8 full hours at time and a half rates - also is incorrect. In this connection, it is important to distinguish between the total increase in payrolls and the increase in labor costs which would result from the Order. The total increase in payrolls under the Order is the total amount of wages that will be paid for additional overtime hours worked at time and a half rate beyond the overtime now worked. Actually this increase has two components.

1/ See Appendix III.

More than two thirds of this amount is payment for the additional output produced in the additional time worked.2/ It is no added cost to the industry. Less than one third of this total additional payroll represents additional labor costs, and then only if productivity is constant, i.e. output per man-hour remains the same. In other words, the increase in labor costs is that portion of the payroll increase which derives from the 50 percent increase in hourly wage rates for whatever additional hours are worked overtime. It is this portion of the increased payroll which adds to costs. In the computations which follow, this added labor cost is expressed as the percentage increase in average hourly earnings, that is, the premium overtime pay distributed over all the hours worked. Should output per man-hour be increased under the lengthened work week, the increase in labor costs would actually be less than the full premium payments. Increased productivity may more than offset the premium payments. On the other hand, should output per man-hour decrease due to the lengthened work week, the increase in labor cost would be greater than the premium payments. If men were released from an affected industry so that the man-hours remained unchanged, the added labor cost and the increased payroll would be identical.

Estimates of the Increases

The general adoption of a scheduled work week of 48 hours by all firms in all nonagricultural industries throughout the country will raise annual payrolls, based on the December 1942 rate, by about $3.3 billion, or about 7.5 percent instead of 30 percent as popularly believed. The increase in labor costs--which is the decisive factor insofar as price ceilings are concerned--would amount to slightly less than one-third of this total increase in payrolls, or only $1.0 billion; that is, only 2.4 percent of the total wage bill.

As of December 1942, average hours worked in all nonagricultural industries amounted to 43.1 and in the largest industry segment, manufacturing, to 44.4. Since a scheduled 48-hour work week is equivalent to an average of 46 hours of employment, the general adoption of a work week of 48 hours would increase average weekly hours by less than two additional hours in manufacturing industries, and by from two to five hours in the other industries, on the basis of the December figures. The increase in average weekly hours worked as of the date of institution of the Executive Order, or subsequently, would probably not be even as large as these amounts, since the average weekly hours worked have further increased since December.

Moreover, the above estimates of the increases in payrolls and labor costs are a considerable overstatement, since in calculating them universal

2/ For explanation see Technical Note in Appendix.

application was assumed. If the Order is applied strictly as interpreted by the War Manpower Commission, the added cost would be less, as indicated below:

1. According to the Commission's ruling the Order is to affect employment only in 32 labor shortage areas. The calculations in this memorandum cover the whole country whereas the added cost applies only to industry in these areas.

2. While the Order will apply to all employment in the labor shortage area, the overtime premiums may not be required in employment which is exempt from the Fair Labor Standards Act or which is not covered by existing State and local legislation or collective bargaining agreements requiring time and a half wage rate for overtime. The full extent to which these first two factors will reduce the estimated increases in payrolls and labor costs is certain to be substantial; however, it cannot be reasonably approximated.

3. Employees in smaller firms, with less than 8 employees, are exempt from the Order. An adjustment for this factor, alone, would reduce the estimated increases in payrolls and labor costs by nearly 12 percent.

Summary of Costs in All Nonagricultural Industry 3/

1.	Annual payroll as of December 1942	$44,352,000,000
2.	Average weekly hours.....	43.1
3.	Percent increase in average hourly earnings.....	2.4
4.	Total increase in payrolls.....	$3,300,000,000
5.	Increase in labor costs due to additional overtime payments.....	$1,045,000,000

III. The Order as affecting individual nonagricultural industries

Estimates of the increases in labor costs are presented in the following sections for each of the important segments of the nonagricultural industries. The estimates are expressed as annual rates based on

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3/ See details in Tables 1 and 2.

payrolls and hours as of December 1942. All estimates are made on the basis of a country-wide application of the Order to firms of all sizes.

Manufacturing Industries

The annual labor cost in all manufacturing industries would be increased by $372 million, or 1.4 percent of the total annual payroll of $26 billion. Almost 45 percent of the total payroll is for industries which are already operating on a 48-hour or longer schedule and which would not be affected by the Order. These unaffected industries are paying $12 billion in wages. The $372 million of additional labor cost constitutes 2.6 percent of the estimated $14.1 billion a year payrolls of the affected industries.

Durable manufactures:- The average weekly hours worked in the durable goods industries in December 1942 was reported as 46.2, indicating that in general these industries were already operating on a scheduled 48-hour or longer work week. (Appendix III) The effect of the Order on the overall labor costs in most of the durable goods industries would be negligible.

There were, however, certain industries in the group for which the hours were below 46, notably blast furnaces, steel works and rolling mills. For these the average hours reported was 41.6. If the work schedules of this group were raised to 48 hours, additional labor costs to the industry would approximate $45 million or 3.7 percent of their payrolls. For all affected durable goods industries the total increase in labor costs would amount to about $120 million, or 1.8 percent of the payrolls of the affected groups and only 0.7 percent of the payrolls of the total group.

Nondurable manufactures:- Weekly hours of employment in the nondurable goods industries averaged 42.1 in December, indicating that in general these industries were operating on schedules of 44 hours a week or more. For these industries the overall increase in labor costs is estimated at about $252 million, or 2.9 percent of the annual payrolls. With a few minor exceptions all branches of the nondurable manufacturing will be affected by the introduction of a 48-hour week.

Half of the $252 million increases in labor costs would fall on the textiles and finished textile products industries. On the December basis, these industries would suffer an additional cost of $126 million, or about 5 percent of their payrolls. Besides the textiles the only other industries which would suffer an increase in wage

costs of more than 5 percent are newspaper and periodical printing and publishing, 6.5 percent; canning and preserving, 6.1 percent; fertilizer, 5.6 percent; and boots and shoes, 5.4 percent.

Costs in Manufacturing[4]

	All Manufacturing	Durable Goods	Nondurable Goods
	(Payrolls and labor costs in millions)		
1. Annual payroll	$26,191	$17,529	$8,662
2. Average weekly hours	44.4	46.2	42.1
3. Percent increase in average hourly earnings	1.4	0.7	2.9
4. Increase in labor costs due to additional overtime payments	$372	$120	$252

Construction

Average hours in December 1942 were 39.8 in public construction and 37.7 in private. Adoption of a 48-hour week in construction would entail additional labor costs of $200 million, or 5.4 percent of the annual payroll. Roughly two-thirds of the labor cost increase, $131 million, would be accounted for by public construction. The increase for private construction would be about $69 million, or 6.3 percent of private construction payrolls.

Costs in Construction[5]

	All Construction	Public	Private
	(Payrolls and labor cost in millions)		
1. Annual payroll	$3,658	$2,571	$1,087
2. Average weekly hours	38.7	39.8	37.7
3. Percent increase in average hourly earnings	5.4	5.1	6.3
4. Increase in labor costs due to additional overtime payments	$200	$131	$69

Public Utilities and Steam Railroads

The average weekly hours in December 1942 were 46.6 for class I steam railroads and 49.9 for street railways and busses. These utilities therefore would not have been affected by the Order.

4/ See details in tables 1 and 2.

5/ See details in tables 1 and 2.

For the telephone and telegraph industry and for electric light and power average hours were 40.8. The increase in labor costs in these industries would have been $37 million in telephone and telegraph and $21 million in electric light and power, or 4.4 percent of the annual payroll in both cases.

For the public utilities other than railroads the increase in labor costs would amount to $58 millions, or 3.2 percent of the annual payrolls.

Costs in Utilities and Railroads 6/

	Utilities	Railroads
1. Annual payroll	$1,805,000,000	$3,020,000,000
2. Average weekly hours	43.0	46.6
3. Percent increase in average hourly earnings	3.2	0.0
4. Increase in labor costs due to overtime payments	$58,000,000	0

Wholesale and Retail Trade

In December 1942 average weekly hours in wholesale trade were 41.8. Under a 48-hour week schedule the increase in labor costs would have amounted to $107 million, or 3.7 percent of the annual payroll.

The average hours reported for retail trade was 40.9. This average is misleadingly low because of the inclusion of a large amount of part-time employment in its computation.7/ Furthermore, this industry operates primarily in intrastate commerce and is not subject to the overtime premium provisions of the Fair Labor Standards Act. The calculated increase in labor costs of $216 million is correspondingly overstated.

Costs in Trade 6/

	All Trade	Wholesale	Retail
	(Payrolls and labor costs in millions)		
1. Annual payroll	$7,784	$2,884	$4,900
2. Average weekly hours	41.1	41.8	40.9
3. Percent increase in average hourly earnings	4.1	3.7	4.4
4. Increase in labor costs due to additional overtime payments	$323	$107	$216

7/ There is even more part-time employment in retail trade in December than in other months because of the Christmas shopping peak.

6/ See details in tables 1 and 2.

Mining

In December average weekly hours of employment in mining were 37.9. This figure was low due to the fact that average weekly hours in anthracite and bituminous coal mining were 35.9 and 35.7 respectively. The scheduled work week in coal mining was 35 hours in December. This schedule is now being increased to 42 hours as a result of negotiations between the coal industry and the mine workers.

The increase in labor costs would be $83 million for all mining or 6.6 percent of the annual payrolls. Of this amount $9 million and $62 million would be for anthracite and bituminous coal mining, respectively. In coal mining premium payments at time and a half rate are made for all hours in excess of 35 a week. The increase in labor cost figured on this basis amounts to 8.3 percent of the payrolls.

Costs in Mining 8/

	All Mining	Anthracite	Bituminous
	(Payrolls and labor costs in millions)		
1. Annual payroll	$1,271	$115	$744
2. Average weekly hours	37.9	35.9	35.7
3. Percent increase in average hourly earnings	6.6	8.3	8.3
4. Increase in labor costs due to the additional overtime payments	$83	$9	$62

	Metalliferous	Quarrying & Nonmetallic	Crude Petroleum
	(Payrolls and labor costs in millions)		
1. Annual payroll	$179	$70	$163
2. Average weekly hours	43.9	43.8	40.5
3. Percent increase in average hourly earnings	1.7	2.0	4.7
4. Increase in labor costs due to additional overtime payments	$3	$1	$8

Services

Hours in the service industries studied 9/ averaged 44.3 per week for December 1942. The adoption of a 48-hour week in these industries would increase labor costs by $10 million or 1.5 percent of the total payrolls. Since these industries are intrastate industries to which the Fair Labor Standards Act does not apply, there would be no overtime premiums required unless collective bargaining agreements or state laws provide for such premiums.

8/ See details in tables 1 and 2.

9/ Includes hotels (year-round), laundries, and dyeing and cleaning only.

Costs in Services[10/]

1.	Annual payroll	$623,000,000
2.	Average weekly hours	44.3
3.	Percent increase in average hourly earnings	1.5
4.	Increase in labor costs due to the additional overtime payments	$10,000,000

10/ See details in tables 1 and 2.

Wage and Cost Analysis Section.

Table 1. Estimated Additional Cost of Overtime Premium Payments under a 48-Hour Work Week, by Major Non-Agricultural Industry Groups, United States

Industry	Payrolls (annual rate in millions) 1/	Average Weekly Hours 1/	Percent Increase in Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate in millions) 3/
All non-agricultural industries	$44,352	43.1	2.4	$1,044.6
All manufacturing	26,191	44.4	1.4	372.3
Affected	14,059	--	2.6	372.3
Not affected	12,132	--	--	--
Durable Goods	17,529	46.2	0.7	120.1
Affected	6,652	--	1.8	120.1
Not affected	10,877	--	--	--
Non-durable goods	8,662	42.1	2.9	252.2
Affected	7,407	--	3.4	252.2
Not affected	1,255	--	--	--
Iron and steel and their products	3,762	45.3	1.4	52.9
Electrical machinery	1,387	47.0	4/	0.2
Machinery, except electrical	2,906	49.7	0.1	1.9
Transportation equipment, except automobiles	5,498	47.3	4/	2.0
Automobiles	1,433	45.5	0.3	4.3
Nonferrous metals and their products	855	45.8	0.3	2.9
Lumber and timber basic products	599	41.4	3.7	22.4
Furniture and finished lumber products	503	43.7	1.9	9.6
Stone, clay and glass products	586	41.9	4.0	23.7
Textile mill Products and other fiber manufactures	1,708	41.5	3.7	64.0
Apparel and other finished textile products	987	37.4	6.3	62.4
Leather and leather products	490	40.3	4.8	23.3
Food and kindred products	1,600	43.7	1.8	28.8
Tobacco manufactures	116	41.2	4.0	4.6
Paper and allied products	515	44.9	0.5	2.5
Printing, publishing, and allied industries	615	40.3	4.9	30.1
Chemical and allied products	1,356	44.5	1.5	20.5
Products of petroleum and coal	288	41.9	3.5	10.1
Rubber products	356	44.4	1.5	5.2
Miscellaneous manufacturing industries	629	46.3	--	--

continued

Industry	Payrolls (annual rate in millions) 1/	Average Weekly Hours 1/	Percent Increase In Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate in millions) 3/
Construction	3,658	38.7	5.4	199.6
Public	2,571	39.8	5.1	131.1
Private	1,087	37.7	6.3	68.5
Railroads, Class I 5/	3,020	46.6	-	-
Public utilities, not including railroads	1,805	43.0	3.2	57.6
Trade	7,784	41.1	4.1	322.3
Wholesale	2,884	41.8	3.7	106.7
Retail	4,900	40.9 6/	4.4	215.6
Mining	1,271	37.9	6.6	83.3
Anthracite coal 7/	115	35.9	8.3	9.5
Bituminous coal 7/	744	35.7	8.3	61.8
Metalliferous	179	43.9	1.7	3.0
Quarrying and Nonmetallic	70	43.8	2.0	1.4
Crude petroleum	163	40.5	4.7	7.6
Service	623	44.3	1.5	9.5

Source: Railroad data: Interstate Commerce Commission, M-300
Earnings and hours data: United States Department of Labor, Bureau of Labor Statistics.

1/ Based on average weekly wages and hours as of December 1942.
2/ Percent increase in average hourly earnings was computed on the assumption that a scheduled 48-hour work week means an average work week of 46 hours.
3/ The increase in labor cost shown here is due to the increase in average hourly earnings and is identical with the increase in payrolls if the same number of manhours are worked on the 48-hour schedule as were worked in December 1942.
4/ Less than one half of one percent.
5/ Includes switching and terminal facilities. Data are as of November 1942.
6/ This figure underestimates the average weekly hours worked in retail trade because of the inclusion of a large portion of employees working part time. Both the "percent increase" shown in the next column and the "increase in labor cost" shown in the last column overestimate the amount that is likely to accrue through the introduction of a universal 48-hour week.
7/ Computations based on 42-hour scheduled week with overtime premium payments for all hours over 35.

Office of Price Administration
Division of Research
March 9, 1943

1-2995-P31-nobu-

Table 2. Estimated Additional Cost of Overtime Premium Payments under a 48-Hour Work Week, by Major Non-Agricultural Industry Groups, and Subgroups, United States

(Dollars in Millions)

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase In Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
All nonagricultural industries	$44,352	43.1	2.4	$1,044.6
Manufacturing industries	26,191	44.4	1.4	372.3
Iron and steel and their products	3,762	45.3	1.4	52.9
Blast furnaces, steel mills and rolling mills	1,213	41.6	3.7	44.9
Steel castings	190	46.1	-	-
Cast-iron pipe and fittings	35	44.6	1.2	0.4
Tincans and other tinware	49	44.0	1.8	0.9
Wirework	65	47.2	-	-
Cutlery and edge tools	45	48.1	-	-
Tools (except edge tools, machine tools, files and saws)	57	48.5	-	-
Hardware	86	47.6	-	-
Plumbers' supplies	43	45.8	0.1	0.0
Stoves, oil burners, and heating equipment, n.e.c.	97	45.4	0.5	0.5
Steam and hot-water heating apparatus and steam fittings	129	47.8	-	-
Stamped and enameled ware and galvanizing	161	46.7	-	-
Fabricated structural and ornamental metal work	152	47.9	-	-
Bolts, nuts, washers, and rivets	60	44.3	1.4	0.8
Forgings, iron and steel	107	49.2	-	-
Firearms	202	49.9	-	-
Other	1,071	45.3	0.5	5.4
Electrical machinery	1,387	47.0	.01	0.2
Electrical equipment	1,005	47.5	-	-
Communications equipment	191	45.8	0.1	0.2
Radios and phonographs	166	46.1	-	-
Other	25	47.0	-	-
Machinery except electrical	2,906	49.7	0.1	1.9
Machinery and machine shop products	1,124	49.4	-	-
Tractors	112	45.4	0.5	0.5
Agricultural machinery excluding tractors	63	43.6	2.2	1.4
Textile machinery	64	50.4	-	-

- continued -

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase in Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
Typewriters	23	49.3	-	-
Cash registers, adding and calculating machines	91	49.0	-	-
Engines and turbines	197	49.5	-	-
Machine tools	345	53.0	-	-
Other	887	49.7	-	-
Transportation equipment except automobiles	5,498	47.3	.04	2.0
Aircraft	1,610	47.2	-	-
Aircraft engines	659	46.6	-	-
Cars, electric and steam railroad	167	44.5	1.2	2.0
Locomotives	104	50.2	-	-
Shipbuilding	2,820	47.7	-	-
Other	138	47.3	-	-
Automobiles	1,433	45.5	0.3	4.3
Nonferrous metals and their products	855	45.8	0.3	2.9
Aluminum	141	46.1	-	-
Alloying, and rolling and drawing of nonferrous metals except aluminum	184	46.3	-	-
Primary smelting and refining	84	42.9	2.8	2.3
Clocks and watches	54	45.5	0.3	0.2
Jewelry(precious metals) and jewelers'findings	32	47.1	-	-
Silverware and plated ware	24	47.2	-	-
Lighting equipment	42	45.5	0.3	0.1
Other	294	45.8	0.1	0.3
Lumber and timber basic products	599	41.4	3.7	22.4
Sawmills	346	40.1	4.9	16.9
Planing and plywood mills	129	45.4	0.5	0.6
Other	124	41.4	3.9	4.9

- continued -

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase In Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
Furniture and finished lumber products	503	43.7	1.9	9.6
Furniture	253	44.0	1.8	4.6
Other	250	43.7	2.0	5.0
Stone, clay, and glass products	586	41.9	4.0	23.7
Glass	146	40.6	4.7	6.8
Cement	49	40.6	4.7	2.3
Brick, tile and terra cotta	82	40.2	4.9	4.0
Pottery and related products	70	40.3	4.9	3.4
Marble, granite, slate and other products	20	40.3	4.9	1.0
Asbestos products	45	47.4	-	-
Other	174	41.9	3.5	6.2
Textile mill products and other fiber manufactures	1,708	41.5	3.7	64.0
Cotton manufactures except small wares	612	41.4	3.9	23.9
Cotton small wares	26	44.5	1.2	0.3
Silk and rayon goods	125	41.7	3.7	4.6
Woolen and worsted manufactures except dyeing and finishing	299	41.4	3.9	11.6
Hosiery	152	39.1	5.6	8.5
Knitted cloth	17	44.3	1.4	0.2
Knitted outerwear and knitted gloves	40	40.4	4.7	1.9
Knitted underwear	51	41.1	4.2	2.1
Dyeing and finishing textiles, including woolens and worsted	115	44.9	0.8	0.9
Carpets and rugs, wool	42	43.0	2.8	1.2
Hats, fur felt	18	40.6	4.7	0.8
Other	211	41.5	3.7	8.0
Apparel and other finished textile products	987	37.4	6.3	62.4
Men's clothing, n.e.c.	285	36.6	6.5	18.5
Shirts, collars and nightwear	64	38.6	5.8	3.7
Underwear and neckwear	13	38.1	6.1	0.8
Women's clothing, n.e.c.	311	37.4	6.3	19.6
Corsets, and allied garments	21	40.2	4.9	1.0
Millinery	20	30.5	8.0	1.6
Other	273	37.4	6.3	17.2

- continued -

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase in Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
Leather and leather products	490	40.3	4.8	23.7
Leather	89	42.8	3.0	2.7
Boots and shoes	266	39.6	5.4	14.4
Other	135	40.3	4.9	6.6
Food and kindred products	1,600	43.7	1.8	28.8
Slaughtering and meat packing	342	45.9	.0	.0
Butter	28	47.2	-	-
Ice cream	19	45.8	.1	.0
Flour	44	47.7	-	-
Baking	434	44.1	1.6	6.9
Sugar refining, cane	18	41.0	4.1	.8
Sugar, beet	35	46.7	-	-
Confectionery	76	42.8	3.0	2.3
Beverages, nonalcoholic	26	42.3	3.2	.8
Malt liquors	86	41.6	3.7	3.2
Canning and preserving	122	38.2	6.1	7.5
Other	370	43.7	2.0	7.3
Tobacco manufactures	116	41.2	4.0	4.6
Cigarettes	47	42.1	3.3	1.6
Cigars	51	40.8	4.4	2.2
Chewing and smoking tobacco and snuff	11	40.2	4.9	0.5
Other	7	41.2	4.2	0.3
Paper and allied products	515	44.9	0.5	2.5
Paper and pulp	290	45.7	.1	0.3
Paper boxes	115	44.5	1.2	1.4
Other	110	44.9	0.8	0.8
Printing, publishing, and allied industries	615	40.3	4.9	30.1
Newspapers and periodicals	224	36.8	6.5	14.6
Book and job	229	42.2	3.3	7.6
Other	162	40.3	4.9	7.9
Chemicals and allied products	1,356	44.5	1.5	20.5
Paints, varnishes, and colors	55	43.3	2.4	1.3
Drugs	58	42.4	3.2	1.8
Soaps	25	42.2	3.3	0.8
Rayon and allied products	89	40.7	4.4	3.9
Chemicals, n.e.c.	266	43.4	2.4	6.4

- continued -

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase in Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
Cottonseed oil	20	52.3	-	-
Fertilizers	24	39.1	5.6	1.3
Explosives	206	46.5	-	-
Ammunition	292	46.6	-	-
Fireworks	57	42.6	3.0	1.7
Other	264	44.5	1.2	3.3
Products of petroleum and coal	288	41.9	3.5	10.1
Petroleum refining	198	41.9	3.5	6.9
Other	90	41.9	3.5	3.2
Rubber products	356	44.4	1.5	5.2
Rubber tires and inner tubes	196	44.0	1.8	3.5
Rubber boots and shoes	41	45.4	.5	.2
Rubber goods, other	114	44.5	1.2	1.4
Other	5	44.4	1.4	.1
Miscellaneous manufacturing industries	629	46.3	-	-
Chemical fire extinguisher, optical goods, professional instruments	215	51.5	-	-
Other	414	46.3	-	-
Nonmanufacturing industries:				
Construction	3,658	38.7	5.4	199.6
Public	2,571	39.8	5.1	131.1
Private	1,087	37.7	6.3	68.5
Class I steam railroad 4/	3,020	46.6	-	-
Public Utilities	1,805	43.0	3.2	57.6
Telephone and telegraph	840	40.8	4.4	37.0
Electric light and power	470	40.8	4.4	20.7
Street railways and buses	495	49.9	-	-
Trade	7,784	41.1	4.1	322.3
Wholesale	2,884	41.8	3.7	106.7
Retail	4,900	40.9 5/	4.4	215.6
Mining	1,271	37.9	6.6	83.3
Anthracite 6/	115	35.9	8.3	9.5
Bituminous coal 6/	744	35.7	8.3	61.8
Metalliferous mining	179	43.9	1.7	3.0
Quarrying and nonmetallic mining	70	43.8	2.0	1.4
Crude petroleum production	163	40.5	4.7	7.6

- continued -

Industry	Payrolls (annual rate) 1/	Average Weekly Hours 1/	Percent Increase In Average Hourly Earnings Resulting from 48-Hour Week 2/	Increase in Labor Cost (annual rate) 3/
Service	623	44.3	1.5	9.5
Hotels (year round)	273	44.8	1.0	2.7
Laundries	272	44.0	1.8	4.9
Dyeing and cleaning	78	43.3	2.4	1.9

Source: Railroad data: Interstate Commerce Commerce Commission, M-300
Earnings and hours data: United States Department of Labor, Bureau of Labor Statistics.

1/ Based on average weekly wages and hours as of December 1942.

2/ Percent increase in average hourly earnings was computed on the assumption that a scheduled 48-hour work week means an average work week of 46 hours.

3/ The increase in labor cost shown here is due to the increase in average hourly earnings and is identical with the increase in payrolls if the same number of manhours are worked on the 48-hour schedule as were worked in December 1942.

4/ Includes switching and terminal facilities. Data are as of November 1942.

5/ This figure underestimates the average weekly hours worked in retail trade because of the inclusion of a large portion of employees working part time. Both the "percent increase" shown in the next column and the "increase in labor cost" shown in the last column overestimate the amount that is likely to accrue through the introduction of a universal 48-hour week.

6/ Computations based on 42-hour scheduled week with overtime premium payments for all hours over 35.

Office of Price Administration
Division of Research
March 9, 1943

1-2995-P43-nobu-

Appendix I

EXECUTIVE ORDER 9301

ESTABLISHING A MINIMUM WARTIME WORK WEEK OF FORTY-EIGHT HOURS

By virtue of the authority vested in me by the Constitution and statutes as President of the United States, and in order to meet the manpower requirements of our armed forces and our expanding war production program by a fuller utilization of our available manpower, it is hereby ordered:

1. For the duration of the war, no plant, factory or other place of employment shall be deemed to be making the most effective utilization of its manpower if the minimum work week therein is less than 48 hours per week.

2. All departments and agencies of the Federal Government shall require their contractors to comply with the minimum work week prescribed in this order and with policies, directives, and regulations prescribed hereunder, and shall promptly take such action as may be necessary for that purpose.

3. The Chairman of the War Manpower Commission shall determine all questions of interpretation and application arising under this order and shall formulate and issue such policies, directives, and regulations as he determines to be necessary to carry out this order and to effectuate its purposes. The Chairman of the War Manpower Commission is authorized to establish a minimum work week greater or less than that established in section 1 of this order or take other action with respect to any case or type of case in which he determines that such different minimum work week or other action would more effectively contribute to the war effort and promote the purposes of this order.

4. All departments and agencies of the Federal Government shall comply with such policies, directives, and regulations as the Chairman of the War Manpower Commission shall prescribe pursuant to this order, and shall so utilize their facilities, services, and personnel, and take such action under authority vested in them by law, as the Chairman determines to be necessary to effectuate the purposes of this order and promote compliance with its provisions.

5. Nothing in this order shall be construed as superseding or in conflict with any Federal, State or local law limiting hours of work or with the provisions of any individual or collective bargaining agreement with respect to rates of pay for hours worked in excess of the agreed or customary work week, nor shall this order be construed as suspending or modifying any provision of the Fair Labor Standards Act (Act of June 25, 1938; 52 Stat. 1060; 29 U.S.C. 201 et seq.) or any other Federal, State or local law relating to the payment of wages or overtime.

Appendix II

War Manpower Commission
Regulations No. 3
Minimum Wartime Workweek of 48 Hours

By virtue of authority vested in me as Chairman of the War Manpower Commission by Executive Order No. 9301 establishing a Minimum Wartime Workweek of 48 hours, and by Executive Orders Nos. 9139 and 9279, I hereby prescribe the following Regulations:

903.1 General Policy for Interpretation and Application of Executive Order. Executive Order No. 9301 shall be so construed and applied as best to effectuate its fundamental purpose, which is to aid in meeting the manpower requirements of our armed forces and our expanding war production program by a fuller utilization of our available manpower. Effectuation of this purpose requires that in situations of labor shortage employers do not hire new workers when their manpower needs can effectively be met by a fuller utilization of their current labor force, and that workers who can be released by an extension of the workweek are released under circumstances which will permit and facilitate their effective utilization elsewhere in the war effort.

903.2 Application to Areas and Activities. The Chairman of the War Manpower Commission will from time to time by order designate areas and activities as subject to the provisions of Executive Order No. 9301. Regional Manpower Directors may designate additional areas and activities within their respective regions as subject to the provisions of Executive Order No. 9301, if they find and by appropriate public notice so declare, that such action will aid in alleviating labor shortages which are impeding the war effort. Unless and until an area or activity has been so designated, employers therein will not be required to extend their workweek.

903.3 Delegation of Authority. Regional and Area Manpower Directors are authorized and directed to determine all questions arising within their respective regions and areas with respect to the interpretation and application of these Regulations, in conformity with such procedures and instructions as the Executive Director of the War Manpower Commission may issue in implementation thereof.

903.4 Minimum Wartime Workweek. "Minimum Wartime Workweek" as used in these Regulations means a workweek of 48 hours, except in cases where a workweek of 48 hours (a) would be impracticable in view of the nature of the operations, (b) would not contribute to the reduction of labor requirements, or (c) would conflict with any Federal, State or local law or regulation limiting hours of work. In such cases "Minimum Wartime Workweek" means the greatest number of hours (less than 48) feasible in the light of the nature of the operations, the reduction of labor requirements or the applicable Federal, State and local law or regulation, as the case may be.

1-2995-P47-nobu-

903.5. Extension of Workweek in Designated Areas and Activities. If the workweek applicable to any worker employed in any plant, factory or other place of employment in an area or an activity designated as subject to the provisions of Executive Order No. 9301, is less than the Minimum Wartime Workweek, such workweek shall be extended to the Minimum Wartime Workweek as follows:

(a) Whenever extension of such workweek to the Minimum Wartime Workweek would not involve the release of any workers, the affected employer shall proceed promptly to extend the workweek to the Minimum Wartime Workweek.

(b) Whenever the Regional or Area Manpower Director or a designated representative of either determines that extension of such workweek to the Minimum Wartime Workweek would involve the release only of workers who can be promptly placed in suitable employment with other employers, the affected employer will be notified of such determination and thereupon shall proceed promptly to extend the workweek to the Minimum Wartime Workweek.

(c) If extension of such workweek to the Minimum Wartime Workweek would involve the release of some workers and the Regional or Area Manpower Director or designated representative has not determined and notified the employer that such workers can promptly be placed in suitable employment with other employers, the workweek shall not be extended except as authorized below. On or before April 1, 1943, the affected employer shall submit to the Regional or Area Manpower Director or the designated representative of either Director a Statement as to the number of workers whose release would be involved and their occupational classification, together with a proposed schedule for the timing of such releases. The Regional or Area Manpower Director or designated representative will authorize a schedule for the extension of the workweek to the Minimum Wartime Workweek and for the release of workers in terms of labor market needs and the employer shall thereupon proceed to extend the workweek in accordance with such schedule.

903.6. Restriction Upon Hiring of Workers. No employer shall hire any worker in an area or activity designated as subject to the provisions of Executive Order No. 9301, if the employer has failed in any manner to comply with the provisions of Section 903.5 of these Regulations in the plant, factory or other place of employment in which the worker would be employed.

903.7. Exclusions. No provision of these Regulations shall be construed or applied so as to require the extension of a workweek:

(a) in any establishment or other place of employment in which less than eight workers are regularly employed;

(b) in any establishment or place of employment principally engaged in agriculture;

(c) of persons in the employ of any State or any political subdivision thereof, or any instrumentality of any one or more of the foregoing;

(d) of youth under the age of sixteen years; or

(e) of individuals who on account of other employment, household responsibilities, or physical limitations, are not available for full time work.

903.8 Definitions. As used in these Regulations:

(a) "Workweek" means the number of hours within a period of seven successive days, beginning with the same calendar day each week, during which workers are normally required to be on duty.

(b) "Agriculture" means those farm activities carried on by farm owners or tenants on farms in connection with the cultivation of the soil, the harvesting of crops, or the raising, feeding, or management of livestock, bees, and poultry, and shall not include any packing, canning, processing, transportation or marketing of articles produced on farms unless performed or carried on as an incident to ordinary farming operations as distinguished from manufacturing or commercial operations.

Effective date: February 22, 1943

1-2995-P51-nobu-

General Order No. 5.
Designation of Certain Areas as Subject to Provisions of
Executive Order No. 9301

By virtue of the authority vested in me as Chairman of the War Manpower Commission by Executive Order No. 9301, establishing a Minimum Wartime Workweek of 48 hours and in accordance with the provision of Section 903.2 of the Regulations prescribed by me on February 22, 1943, I hereby designate the following areas as subject to the provisions of Executive Order No. 9301:

Akron, Ohio
Baltimore, Maryland
Bath, Maine
Beaumont, Texas
Bridgeport, Connecticut
Brunswick, Georgia
Buffalo, New York
Charleston, South Carolina
Cheyenne, Wyoming
Dayton, Ohio
Detroit, Michigan
Elkton, Maryland
Hampton Roads, Virginia
Hartford, Connecticut
Las Vegas, Nevada
Macon, Georgia
Manitowoc, Wisconsin
Mobile, Alabama
New Britain, Connecticut
Ogden, Utah
Panama City, Florida
Pascagoula, Mississippi
Portland, Oregon
Portsmouth, New Hampshire
San Diego, California
Seattle, Washington
Somerville, New Jersey
Springfield, Massachusetts
Sterling, Illinois
Washington, D. C.
Waterbury, Connecticut
Wichita, Kansas

Effective date: February 22, 1943

1-2995-P53-nobu-

War Manpower Commission
General Order No. 6

Designation of Certain Activities as Subject to Provisions of Executive Order No. 9301.

By virtue of the authority vested in me as Chairman of the War Manpower Commission by Executive Order No. 9301, establishing a Minimum Wartime Workweek of 48 hours, and in accordance with the provisions of Section 903.2 of the Regulations prescribed by me on February 22, 1943, I hereby designate the following activities as subject to the provisions of Executive Order No. 9301:

1. The mining (Including the development of ore properties), dressing, and beneficiating (milling) of the following non-ferrous metals and their ores:

Aluminum
Antimony
Arsenic
Beryllium
Chrone
Cobalt
Columbium
Copper
Lead
Magnesium
Manganese
Mercury
Molybdemum
Silver
Tantalum
Tin
Titanium
Tungsten
Uranium
Vanadium
Zinc
Zirconium

All other non-ferrous metals and their ores.

2. (a) All logging operations

(b) All operations of all

sawmills
planning mills
veneer mills
plywood mills
cooperage-stock mills
cooperage establishments
shingle mills
wooden box factories
wooden pulp mills

Appendix III

Technical Note

Method of calculating the increase in labor costs which may be expected to result from the introduction of a scheduled 48-hour work week in nonagricultural industries

The difference between the annual labor cost in the major nonagricultural industries based on December 1942 employment, hours, and wages, and the annual labor cost which would have been entailed if such industries had been operating the same number of manhours on a 48-hour basis with time and a half payments for all work in excess of 40 hours a week was calculated as follows:

1. The average hours actually worked in an industry is always less than the scheduled hours. The United States Department of Labor estimates a difference of at least two hours between scheduled hours and average hours on a weekly basis. The adoption of the 48-hour week would mean that average hours actually worked would not exceed 46, since illness, accident or other causes of absence, labor turnover, operational breakdowns, shortage of materials and part-time employment would prevent the number of hours worked per employee actually coinciding with the maximum number of hours scheduled. As the number of scheduled hours increases, so, too, does the amount of absenteeism and the amount of frictional stoppages of work. The additional cost figures used in this report are, therefore, for a work week which would include an average of 46 hours of work per employee, but in which the total number of manhours would remain as before.

2. A recent study of the Bureau of Labor Statistics indicates a close relationship between (x) the total average weekly hours per employee and (y) average weekly hours of overtime worked. The overtime worked per employee is not the difference between the average number of hours worked and the 40 basic hours, since for many causes, such as breakdowns and repairs, workers may have to work more than the scheduled eight hours on certain days. The Bureau of Labor Statistics collected data on the number of hours of overtime worked and compared these with the average hours worked in each of 117 manufacturing industry groups and subgroups. The overtime hours per employee were plotted as a function of the average hours. To these data the Bureau fitted by inspection the free hand trend line shown in the attached chart. Assuming that the relationship found to exist is a true approximation for all nonagricultural industries, this curve was used to determine the number of hours of overtime worked in each industry during December 1942. A week of 46 average hours of work was found to contain about 7.4 hours of overtime per employee.

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3. Since overtime hours are paid for at time and a half rate, the compensation for a week of 46 average hours, containing 7.4 hours of overtime, would include extra pay equal to one half of the wages for the number of overtime hours if paid at straight-time rate, that is for 3.7 hours of work more than is actually performed. The average hourly earnings for such a week would be increased by 3.7/46, or 8 percent of the straight-time hourly earnings. The average hourly earnings, therefore, under the 48-hour schedule would be 108 percent of the straight-time hourly earnings.

4. In December the average weekly hours of employment reported by the Bureau of Labor Statistics contained some overtime hours. The hourly earnings in December, therefore, contained overtime premium payments. The average hours of overtime paid for in December raise the average hourly earnings above the straight-time hourly earnings by a ratio equal to one half the overtime hours per employee divided by the average hours worked. For example, if an average of 44 hours was worked in an industry in December, there would have been 5.4 overtime hours. The premium payments would have been equivalent to the pay for one half of this number of hours. The average hourly earnings, therefore, including the overtime payments, would have been 2.7/44, or 6.1 percent above the straight-time hourly earnings. The average hourly earnings would have been 106.1 percent of the straight-time hourly earnings.

5. Average hourly earnings on the 48-hour schedule (46 average hours of work) would be to December hourly earnings as 108 is to the ratio of December actual hourly earnings to the straight-time hourly earnings. Assuming 44 average hours in December, the 48-hour schedule would have raised these average hourly earnings to 108/106.1, or to 101.8 percent of the December hourly earnings. The increase in hourly earnings therefore would have been 1.8 percent.

6. The percentage increase determined by this method was applied to the December payrolls to determine the additional labor cost in dollars. This additional labor cost would be identical with the increase in total payrolls if the number of manhours is constant. If the number of workers remains the same, but the total output increases in proportion to the additional hours worked, the dollar increase in labor cost will be less than a third of the total increase in payrolls, as the total increase in payrolls will cover the cost of additional units produced as well as the additional cost for the same number of units as before. The increase in labor cost included in the table is the additional cost of producing the same output as produced in December 1942.

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Assume a labor force of 10,000 men working an average of 44 hours a week in December and receiving an average rate of $1.00 per hour straight time with time and a half for all hours worked in excess of 40. Since a labor force in an industry working an average of 44 hours would involve 38.6 straight time hours and 5.4 overtime hours, the total payroll would be $386,000 for the 38.6 hours and $54,000 plus $27,000 for the overtime hours, or a total of $467,000. If this plant is put on a 48-hour schedule (46 average hours of employment) and sufficient manpower released to maintain the same number of man-hours as before - 440,000 man-hours - the number of men retained would be 9,565 (435 men would be released) and the payroll would be $475,000. The increase in payroll would be about $8,000, or 1.7 percent, for the same output.

If, on the other hand, all the 10,000 men were retained and the average hours of employment increased to 46, total man-hours would increase from 440,000 to 460,000 or by 20,000. The new payroll would total $497,000, that is, $386,000 for straight time hours and $74,000 plus $37,000, or $111,000 for overtime hours. The increase in payrolls would be $30,000. But the plant's output would also increase, in this instance by 20,000/440,000 or by 4.55 percent due to the additional man-hours of work.

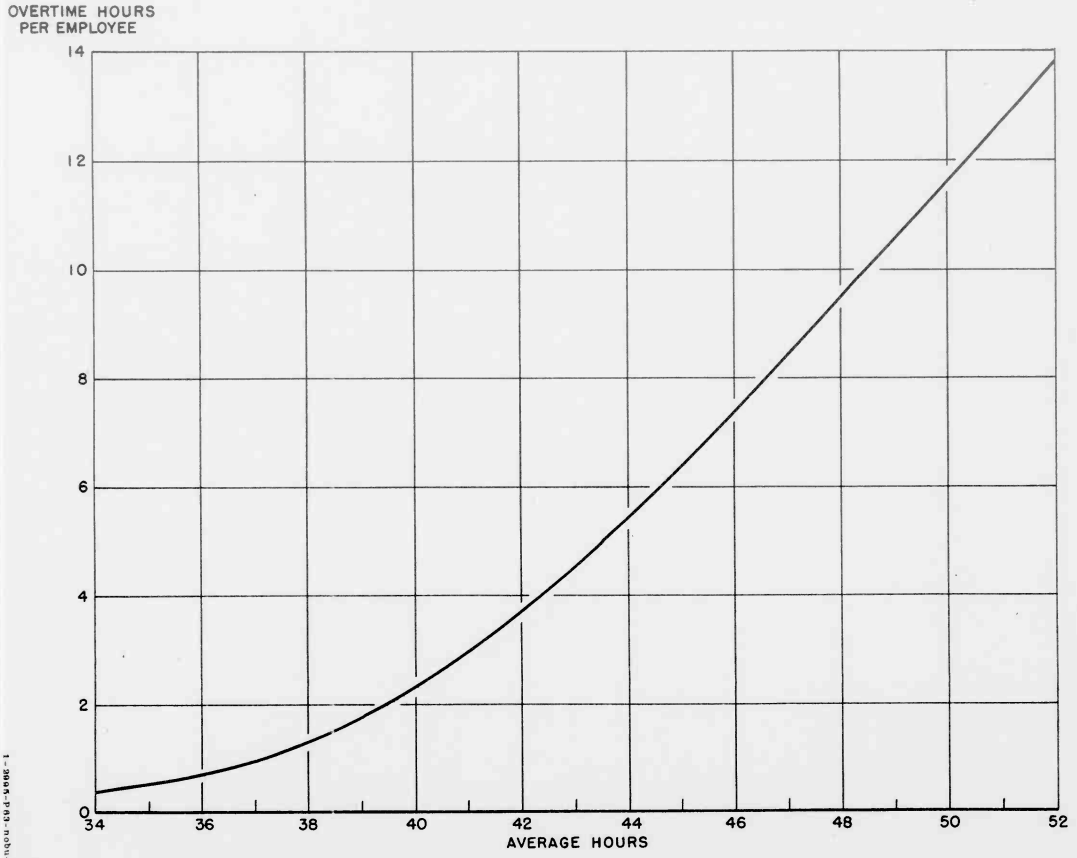
To produce 440,000 man-hours of output would cost (100/104.55) (497,000) of the new payroll, which would be $475,000. This sum covers the amount of the former payroll of $467,000, plus the additional labor cost of $8,000. This $8,000 is less than one third of the $30,000 added to the payroll due to the increased manhours (20,000) and to the increased average hourly earnings resulting from the additional overtime premium payments.

The cost per man-hour on the 44 average hour week was $467,000/440,000, or $1.061. The cost per man-hour on a 46 average hour week would be $497,000/460,000, or $1.08. The output of the additional 20,000 man-hours at the latter rate would amount to about $22,000. This sum, plus the $8,000 additional overtime cost of the original output account for the $30,000 addition to the payroll.

7. All computations were made on the basis of the average hours worked in the industry subgroups. Totals for the major groups were built up from the subgroup figures. The percentage increase for the major industries was obtained by dividing the built-up totals of dollar increases in labor costs by the total payrolls for the major industry groups.

RELATIONSHIP BETWEEN AVERAGE TOTAL HOURS OF WORK AND AVERAGE OVERTIME HOURS OF WORK

IN 117 MANUFACTURING INDUSTRIES



SOURCE: Bureau of Labor Statistics.

OFFICE OF PRICE ADMINISTRATION
DIVISION OF RESEARCH
NO. 3029

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